AMENDMENTS

Please incorporate the following amendments into the subject application.

In the Claims:

1. (Currently Amended)   A virtualizing microarray system, ~~said~~ **the** system comprising:

    (a)   a ~~physical~~ microarray comprising:

        (i)   a number of features, each feature containing a type of probe molecule designed to bind a target molecule; and

        (ii)   a memory element physically associated with the ~~physical~~ microarray, wherein ~~said~~ **the** memory element comprises data that describes each feature of the ~~catalog physical~~ microarray; and

    (b)   logic that **controls a microarray processing component to** ~~generates~~ **generate** a virtual microarray comprising data describing a subset of the features of the ~~physical~~ microarray.

2. (Currently Amended)   The virtualizing microarray system of claim 1 wherein the data describing a feature of the ~~physical~~ microarray ~~includes~~ **comprises**:

    data that identifies a position of the feature within the ~~physical~~ microarray;

    data that identifies the type of probe molecules contained in the feature; and

    data that describes the target molecule of the probe molecules contained in the feature.

3. (Currently Amended)   The virtualizing microarray system of claim 2 wherein the data that describes the target molecule of the probe molecules contained in the feature ~~includes~~ **comprises**:

    data that describes an immediate target molecule to which the probe molecules bind.

4. (Previously Presented)   The virtualizing microarray system of claim 2 wherein the data that describes the target molecule of the probe molecules contained in the feature includes:

data that describes a biological molecule produced by synthesis directed by an immediate target molecule to which the probe molecules bind.

5. (Previously Presented)   The virtualizing microarray system of claim 2 wherein the data that describes the target molecule of the probe molecules contained in the feature further includes:

data describing molecular function;

data describing a biological process; and

data describing a cellular component.

6. (Currently Amended)   The virtualizing microarray system of claim 1 wherein the logic ~~that generates a virtual microarray includes~~ **comprises**:

logic that ~~allows specification of~~ **controls the microarray processing component to specify** masks related to the data describing each feature of the ~~physical~~ microarray; and

logic that ~~uses~~ **controls the microarray processing component to use** the specified masks to filter the features of the ~~physical~~ microarray to produce the data describing a subset of the features of the ~~physical~~ microarray.

7. (Currently Amended)   The virtualizing microarray system of claim 1, wherein ~~said system comprises one of~~ **the microarray processing component is selected from one or more of**:

a microarray scanner;

a microarray-data processing system;**_ and_**

a microarray-data visualization system.

8. (Cancelled)

9. (Currently Amended)   The virtualizing microarray system of claim 1 wherein the ~~catalog~~ microarray further includes a header**, wherein** ~~that allows~~ the logic **controls the microarray processing component** to associate data describing each feature of the ~~catalog~~ microarray with a ~~catalog~~ microarray identified by information contained in the header.

Please add the following claim:

10. (New)   The virtualizing microarray system of claim 7 wherein the microarray processing component is a microarray scanner.